



2015/018 Incoming  
#5736  
Interwest Mining Company  
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P. O. Box 310  
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Huntington, UT 84528

Utah Division of Oil, Gas, and Mining  
Coal Program  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5801

RECEIVED

OCT 12 2018

DIV. OF OIL, GAS & MINING

**Subject: Clean Copy Submittal Amendment to Remove Live Container Planting from Deer Creek Reclamation Plan, PacifiCorp, Deer Creek Mine, C015/0018, Emery County, Utah**

PacifiCorp, by and through its wholly-owned subsidiary, Interwest Mining Company (as mine manager), hereby submits three (3) clean copies to the above stated amendment, Task ID #5736. The Division informed PacifiCorp in an email dated September 4, 2018 that the amendment had been conditionally approved. A formal approval letter was to be forthcoming.

Although PacifiCorp did not receive a formal approval letter, attached are three clean copies of Task ID 5736. A C2 form is also included for placement in the MRP. Please return one copy for our own MRP.

Sincerely,

Dennis Oakley  
Sr. Mine Engineer

Encl

Cc File

# APPLICATION FOR COAL PERMIT PROCESSING

## Detailed Schedule Of Changes to the Mining And Reclamation Plan

**Permittee:** PacifiCorp

**Mine:** Deer Creek Mine

## Permit

C/019/0018

**Number:**

**Title:** Amendment to Remove Containerized Plantings from the Deer Creek Mine Reclamation Plan, PacifiCorp, Deer Creek Mine, C/015/0018, Emery County, Utah

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

**DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED**[illegible]

**Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.**

Received by Oil, Gas &amp; Mining

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10/12/2018

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## ***Deer Creek Mine***

Table 3-4: Seed Mixture (Riparian)

Common Name	Scientific Name	Lbs/Acre Equivalent PLS
<b>Grasses</b>		
Indian Ricegrass	Oryzopsis hymenoides var. Paloma	2.0
Kentucky Bluegrass	Poa pratensis	1.0
Mountain Brome	Bromus marginatus	2.0
Needle and Thread Grass	Stipa comata	1.0
Streambank Wheatgrass	Agropyron riparium var. Sodar	3.0
<b>Forbs</b>		
Blueleaf Aster	Aster glaucodes	0.2
Louisiana Sage	Artemisia ludoviciana	0.2
Rocky Mountain Penstemon	Penstemon strictus	1.0
Silky Lupine	Lupinus sericeus	3.0
White Yarrow	Achillea millefolium	0.1
<b>Shrubs</b>		
Saskatoon Serviceberry	Amelanchier alnifolia	1.0

Mixed conifer areas are normally north facing slopes. These areas receive less sunlight and are usually wetter. An initial growth of grasses is needed to provide soil stabilization. Shrubs do well in these area which provide food and cover for wildlife.

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## Deer Creek Mine

Table 3-5: Seed Mixture (Mixed Conifer)

Common Name	Scientific Name	Lbs/Acre Equivalent PLS*
<b>Grasses</b>		
Bluebunch Wheatgrass	Agropyron spicatum	1.0
Indian Ricegrass	Oryzopisi hymenoides var. Paloma	2.0
Western Wheatgrass	Agropyron smithii var. Rosanna	3.0
Kentucky Bluegrass	Poa prognis	1.0
Mountain Brome	Bromus marginatus	2.0
Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	2.0
<b>Forbs</b>		
Louisiana Sage	Artemisia ludoviciana	0.2
Northern Sweetvetch	Hedysarum boreale	1.0
Pacific Aster	Aster chilensis	0.2
Rocky Mountain Penstemon	Penstemon strictus	1.0
Silky Lupine	Lupinus sericeus	1.0
<b>Shrubs</b>		
Mountain Big Sagebrush	Artemisia tridentata vaseyana	0.2
Saskatoon Serviceberry	Amelanchier alnifolia	2.0
Skunkbush Sumac	Rhus trilobata	1.0

### Seeding Techniques

Seeding will take place as contemporaneously as practical following soil placement, contouring/pocking, and fertilization of the area being reclaimed. Certified noxious weed free alfalfa hay will be incorporated into the soil following contouring at a rate of 2000lbs/acre. Fertilizer may be applied after soil sampling and analysis determines a need for a type and rate for plant growth. The rate and type of fertilizer will be approved by the Division prior to application.

Pocking techniques will mix the alfalfa and fertilizer (if needed) into the upper portion of the soil.

The seed mixture will be broadcast using a "hurricane spreader" or applied using a hydroseeder. If the seed mixture is hydroseeded, a small amount of wood fiber mulch will be added to mark the area of coverage during application.

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5. Buffer Zones markers placed along the south disturbed border to make construction workers aware of the location of the stream.
6. Reduced speed limit on the mine access road (Emery County Road #306).
7. Compliance with a Spill, Prevention, Control and Countermeasures (SPCC) Plan for the mine facility. The SPCC Plan is required under 40 CFR 112. It's primary use is prevention, reporting and clean-up of spills.
8. Compliance with and Air Quality Approval Order for the mine facility.
9. Annual raptor survey
10. To limit the impact on wildlife, the facility disturbance is located below the stream crossing at the forks of Rilda Canyon. Wildlife can continue to use the area for access from one fork to the other.
11. Raptor safe power poles have been installed in the facilities following PacifiCorp's "Guidelines For Managing Birds on Powerlines", refer to Volume 11 Appendix Volume - Biology: Appendix H.
12. Startup construction (commenced April 15, 2006) and startup of reclamation activities will not take place between December 1<sup>st</sup> and April 15<sup>th</sup>, an exclusionary time for wintering and calving periods. All access prior to April 15, 2006 to the Rilda Canyon Facilities was approved by the Division on a case-by-case basis.

In addition to the protection and enhancement methods, devices and procedures listed above, PacifiCorp in cooperation with the regulatory agencies has developed a series of mitigation commitments to enhance and mitigate potential impacts associated with the Rilda Canyon development related to big game species, raptors, riparian habitat (aquatic species, bats and migratory birds) and noxious weed control. The list details the mitigation commitments:

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Table 300-7: Rilda Canyon Portal Facilities Reclamation Schedule: 1 <sup>st</sup> thru 10 <sup>th</sup> Year											
#	10 Year Revegetation & Monitoring	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year	6 <sup>th</sup> Year	7 <sup>th</sup> Year	8 <sup>th</sup> Year	9 <sup>th</sup> Year	10 <sup>th</sup> Year
1	Plant Monitoring Disease & Pest Control *		★	★	★	★	★	★	★	★	★
2	Soil Stabilization Rills & Gullies		★	★	★	★	★	★	★	★	★
3	Contingent Seeding		★		★						
4	Revegetation Inventory for Bond Release				★				★	★	★

\* Monitoring is conducted twice per year during the spring and fall.

Description of Revegetation Operations

Tables 300-8 through 300-10 are the vegetation seed mixes to be used during interim and final reclamation. Pinyon Juniper/Mountain brush habitats are those areas that have a high exposure to sunlight. These areas are typically drier and need grass growth early on for moisture retention and soil stabilization.

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<b>Table 300-10: Seed Mixture (White Fir/Aspen)</b>		
<b>Common Name</b>	<b>Scientific Name</b>	<b>Lbs/Acre Equivalent PLS*</b>
<b>Grasses</b>		
Bluebunch Wheatgrass	<i>Agropyron spicatum</i>	1.0
Indian Ricegrass	<i>Oryzopisi hymenoides</i> var. Paloma	2.0
Western Wheatgrass	<i>Agropyron smithii</i> var. Rosanna	3.0
Kentucky Bluegrass	<i>Poa pretenses</i>	1.0
Mountain Brome	<i>Bromus marginatus</i>	2.0
Slender Wheatgrass	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	2.0
<b>Forbs</b>		
Louisiana Sage	<i>Artemisia ludoviciana</i>	0.2
Northern Sweetvetch	<i>Hedysarum boreale</i>	1.0
Pacific Aster	<i>Aster chilensis</i>	0.2
Rocky Mountain Penstemon	<i>Penstemon strictus</i>	1.0
Silky Lupine	<i>Lupinus sericeus</i>	1.0
<b>Shrubs</b>		
Snowberry	<i>Symphoricarpos oreophilus</i>	1.0
Saskatoon Serviceberry	<i>Amelanchier alnifolia</i>	0.5
Skunkbush Sumac	<i>Rhus trilobata</i>	0.5

\* Pure Live Seed

Though several reference areas were designated and sampled, (see Volume 11 Appendix Volume - Biology: Appendix A), the disturbed area will only impact four vegetation communities. As indicated in the vegetation map, of this appendix, the sagebrush/grass seed mix will be used in the upper part of the disturbance. The topsoil storage area will be seeded with the White Fir/Aspen seed mix (Table 300-10) for interim and final vegetation. Disturbances to the White Fir/Aspen Community, near the Rilda Canyon stream, will be seeded with the White Fir/Aspen seed mix. All other areas will be seeded with the Pinyon-Juniper/Mountain Brush seed mix. Within the disturbed area is a small community of Douglas Fir/White Fir, approximately 0.25 acres. Because of the small size, this area will be seeded with the Pinyon-Juniper/Mountain Brush seed mix. This seed mix will be used for both the previously undisturbed (AMR/AML) and previously disturbed Pinyon Juniper (AML) areas.

No Riparian vegetation areas will be disturbed.

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Seeding Techniques

Seeding will take place as contemporaneously as practical following soil placement and contouring/pocking of the area being reclaimed. Certified noxious weed free alfalfa hay will be incorporated into the soil following contouring at a rate of 2000 lbs/acre. The mulch will be applied using a tub grinder or similar blower. Pocking techniques will mix the alfalfa hay into the upper portion of the soil.

The seed mixture will be broadcast using a "hurricane spreader" or applied using a hydroseeder. If the seed mixture is hydroseeded, a small amount of wood fiber mulch will be added to mark the area of coverage during application.

After the seed is applied, the entire area will be hydromulched with a wood fiber or other acceptable mulch and applied at a rate of at least 1500 lbs./acre for cover and protection. A tackifier (plantago or other similar tackifier) will be added to the mulch and applied at a rate recommended by the manufacturer. Tackifier may only be used on slopes greater than 2:1. Mulch and tackifier will be applied simultaneously.

Measures to determine success of revegetation are those included in R645-301-350 of the Utah Coal Rules and as detailed later in this section.

***R645-301-342 Fish and Wildlife***

To minimize impact of the stream area and to make the operator aware of the presents of the stream, "Buffer Zone" signs will be placed along the stream side of the disturbed area.

To limit the impact on wildlife, the facility disturbance is located below the stream crossing at the forks of Rilda Canyon. Wildlife can continue to use the area for access from one fork to the other. In addition, material haulage to the existing Rilda Canyon fan in the Left Fork will be discontinued. Materials will be hauled underground via the facility's portal.

Measures taken during reclamation and liability period to reduce impact to environment and wildlife:

1. Rock piles will be formed to create habitat for small mammals.
2. Vegetation pocking to create micro-niches for vegetation to control and limit erosion.
3. Mulch and tackifier will be used to promote vegetation and control and limit erosion.

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## **R645-301-350 PERFORMANCE STANDARDS**

Construction/reclamation activities will not take place between December 1<sup>st</sup> and April 15<sup>th</sup>.

Signs will be placed around the planted slopes for their protection. The area will be entered only to provide maintenance (as needed) and/or monitoring duties.

Standards for successful revegetation includes weed species not more than 10% and no noxious weeds. Weed control will not be undertaken unless it is determined necessary due to weed dominance and delayed rate of succession. All noxious weeds will be eradicated either chemically or physically if they become established on the site. Chemical applications will be approved by UDOGM in consultation with the Forest Service.

Rodent damage on revegetated areas will be assessed during monitoring periods. Species specific control measures will be implemented as necessary. Control measures must be approved by the Division in consultation with the Utah Division of Wildlife Resources prior to application.

Annual monitoring will also include inspection for rills and gullies. Should these be present, they will be filled and the soil reseeded. Rill and gully repair will follow the regulations set forth in the Coal Rules R645-301-357.360 through R645-301-357.365. As repairs are recognized, the Division will be notified and the affected area will be reported in the annual vegetation report.

All vegetation sampling will be undertaken in the late summer for maximum plant growth. The line intercept or ocular estimation methods will be used to measure cover and species composition. The point-center quarter method will be used to measure shrub and tree density.

Productivity measurements will be a double sampling procedure of clipped plots and ocular estimates. Rectangular plots (6.27 in. x 100 in.) will be randomly located in reference areas and revegetation sites. Sampling will be at the 90% confidence level.

The reference area will be checked to detect any change from natural or man-induced activities and to verify they are in fair or better condition. Sampling of the reference sites at the time of bond

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